Palmetto AVIATION

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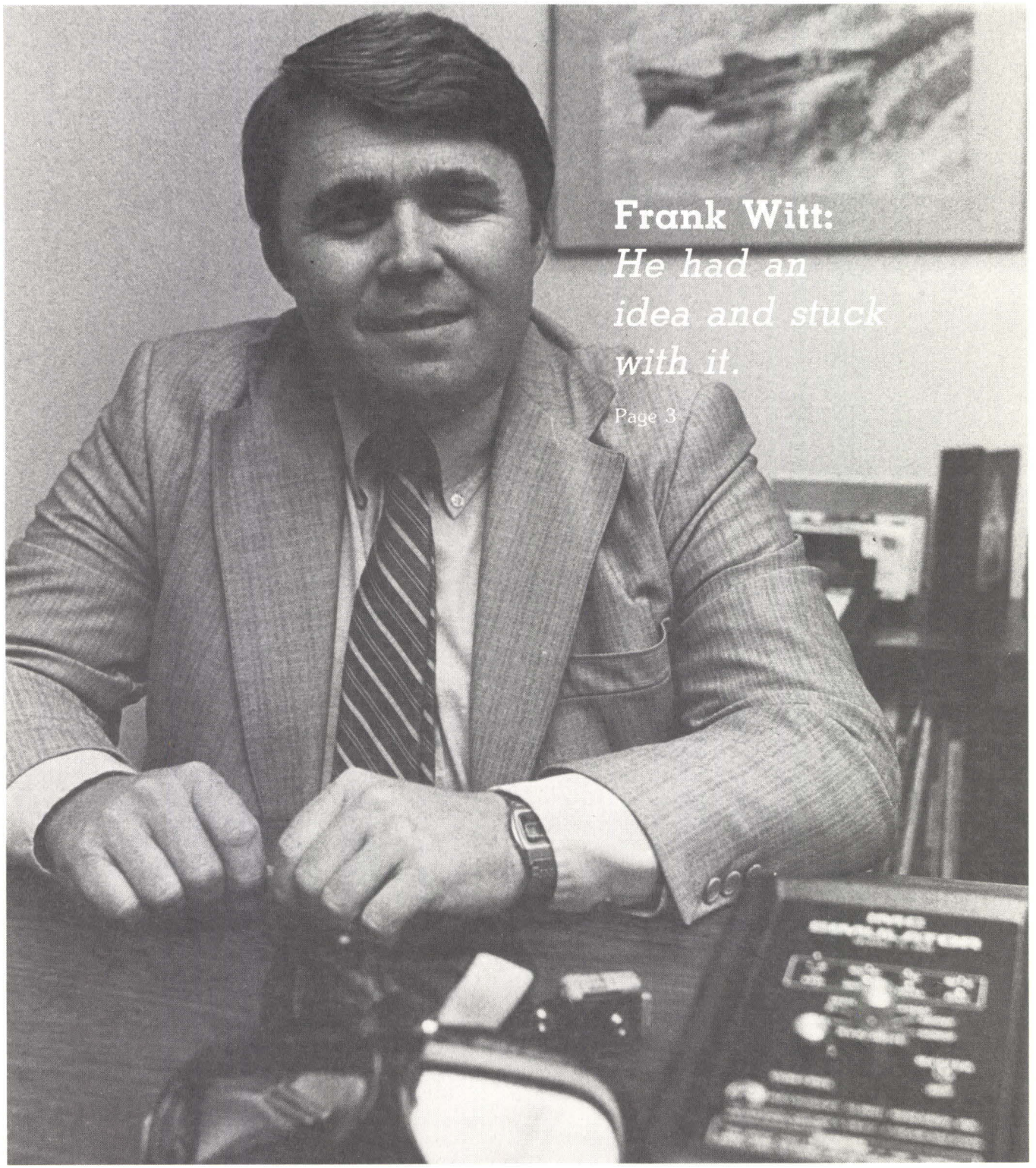

Frank Witt:
He had an idea and stuck with it.

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PALMETTO AVIATION is an official publication of the South Carolina Aeronautics Commission. It is designed to inform members of the aviation community, and others interested in aviation, of local developments in aviation and aviation facilities and to keep readers abreast of national and international trends in aviation.

The Aeronautics Commission is a state agency created in 1935 by the S.C. General Assembly to foster and promote air commerce within the state.

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Boating accident claims Louis Cochran, 37

Louis Cochran, an employee of the South Carolina Aeronautics Commission for nearly 20 years drowned in a boating accident April 21 while fishing on the Old Dead River off Highway 601.

A S.C. Wildlife Department Spokesman said Mr. Cochran's boat apparently hit an underwater obstacle which knocked the motor loose. Mr. Cochran may have tried to grab it and went over the side with the motor.

Mr. Cochran, 37, was born in Eastover, the son of Mrs. Annie Hall and the late Louis Cochran, Sr. He started working for the commission while still in high school, helping his grandfather who was a janitor.

At the time of his death, Mr. Cochran was a trades work supervisor responsible for the agency's maintenance shop. He was a trusted and well-liked employee. He will be missed by all those who knew him.

Cynthia Ann Lucas promoted at Hawthorne

Hawthorne Aviation has announced the promotion of Cynthia Ann Lucas to Manager of Personnel and Administration.

In her new position, Ms. Lucas will be responsible for centralizing all personnel and administration functions for the company.

Currently, Hawthorne operates a full service general aviation division on the Charleston International Airport, a wholesale division which serves as a Piper Aircraft distributor in South Carolina, Georgia, Kentucky, Eastern Tennessee and South Central North Carolina, and a government contracts division. The Goverment Contracts Division has nine operations in seven states and extends westward to Arizona and Utah.

In making the announcement, John H. Allen, President of Hawthorne, noted the abilities Ms. Lucas has demonstrated since joining the company in 1978.

"She has brought to every position new levels of creativity and organization. These same qualities will be essential in bringing together functions that have previously been performed at as many as twelve to fifteen different levels," Allen said.

Ms. Lucas joined Hawthorne in early 1978, as Sales Coordinator for the company's Aero Sales Division. Since 1980, she has served as Administrative Assistant to the Vice President. She resides in the Snee Farm area of Mt. Pleasant. ✈

Airspace Review begins this month

A government/industry review program aimed at improving the efficiency of the nation's airspace system formally gets underway this month when the program's Executive Steering Committee holds its first meeting in Washington, D.C.

Directly related to the National Airspace System Plan to modernize the U.S. air traffic control and air navigation system, the National Airspace Review Program will focus on identifying and implementing changes in airspace design and management as well as air traffic control procedures.

FAA Administrator J. Lynn Helms said these elements need to be simplified and updated to make operations in the national airspace system more efficient for both civil and military pilots and to bring the system more in line with the changing needs of aviation. ✈

Columbia company develops new device for cockpit IFR Training using liquid crystal technology

Frank Witt became aware of the problems with hoods when he was a gas boy taking flying lessons at a Chattanooga FBO. He felt the basic IFR hood could be improved upon and he never lost sight of that fact.

Today, 25 years later, Witt is president of a Columbia company that's gearing up to manufacture the first modern alternative to the IFR hood.

What he's come up with is a pair of battery powered goggles with liquid crystal lens that can simulate various visibility conditions from one mile to 0-0. The glasses have a bifocal-like clear area so the pilot can see the instrument panel; but if the pilot tries to look out of the cockpit, the clear area instantly fogs, creating a totally obscured lens.

"He's been working on this concept for 20 years," marketing manager Ron Benson said.

Benson was chief of testing and evaluation, division of Combat Development at Ft. Rucker when Witt came down in 1966 to demonstrate his goggles to the Army. Benson was so impressed that he joined Witt when he got out of the Army.

Witt is no electronics wizard — he's been in sales most of his life — and that makes his accomplishment that much more remarkable.

"It's just a matter of discovery," he modestly says. "You just ask God to help."

"We have not yet discovered all of what God has put on the earth for us," he said.

Witt's recognition of obvious shortcomings in the IFR hood and his belief that he could do something to make it better, coupled with his steady faith in the power of God to help has produced significant results.

Called the Instrument Meterological Conditions Simulator (IMSC), the glasses are the first really new idea in simulating IFR conditions since the beginning of instrument instruction and, according to Benson, they overcome several of the problems associated with hoods.

Benson said the traditional IFR hood just can't prepare the pilot psychologically for flight inside clouds. But the IMCS gives a much more realistic feeling of being in the clouds. Looking through the white lenses of the glasses is just like looking into a thick fog.

The goggles are also "peek proof," and they let a pilot shoot an approach down to landing, if deasired, without taking them off. There is even a scud condition the instructor can set to give the feeling of popping in and out of the clouds.

One pilot who has tried the IMCS said the scud setting is "very realistic. It even tended to give you vertigo," he said.

When a pilot is looking at the instruments, the lower inside quadrant of the IMCS lens will be clear. The rest of the lens will be obscured according to the visibility set by the instructor on a knee control box. If the pilot raises his head to look outside the cockpit, a sensor on the goggles senses the brighter light outside and sends a signal to the electronic circuitry in the control box. The logic circuits obscure the clear portion in less than 1/10 of a second. When the pilot looks back inside, the lower guadrant clears and the pilot can see the instruments. The glasses work at night also, but the circuitry logis is reversed to obscure the lens when it senses a decreased light level, from outside.

Witt's first early experiments with hoods were heavy devices with clumsy mechanical shutters. When liquid crystal technology started appearing in watches and calculators in the 1970's, Witt saw a possible application in IFR goggles.

"There were so many companies doing work with liquid crystal technology, I thought somebody else would come up with the idea I had," he said.

"I kept thinking I'd open *Flying* magazine one day and there it would be."

But it didn't happen. And Witt kept plugging away at his idea.

About two years ago, Witt managed to get financial backing and formed his own company. Today, Witt's company is the only one in the country making and researching this kind of product.

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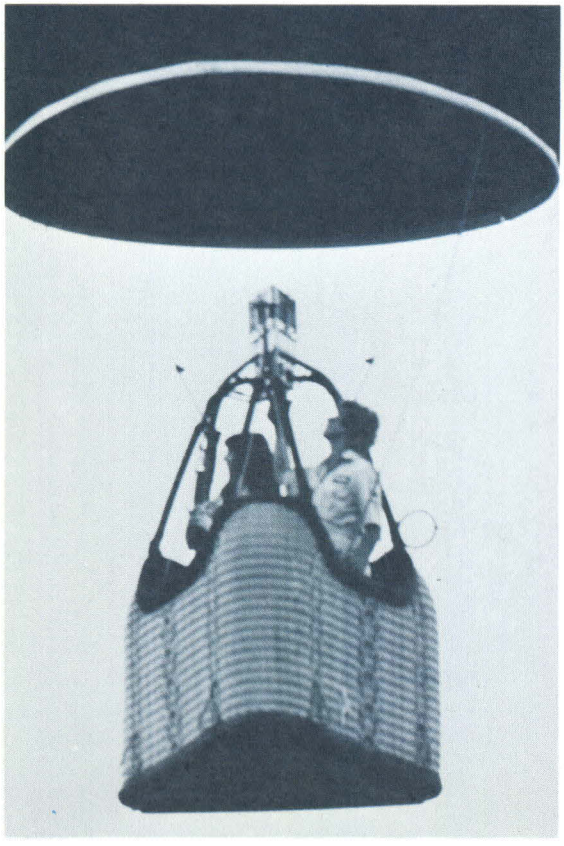
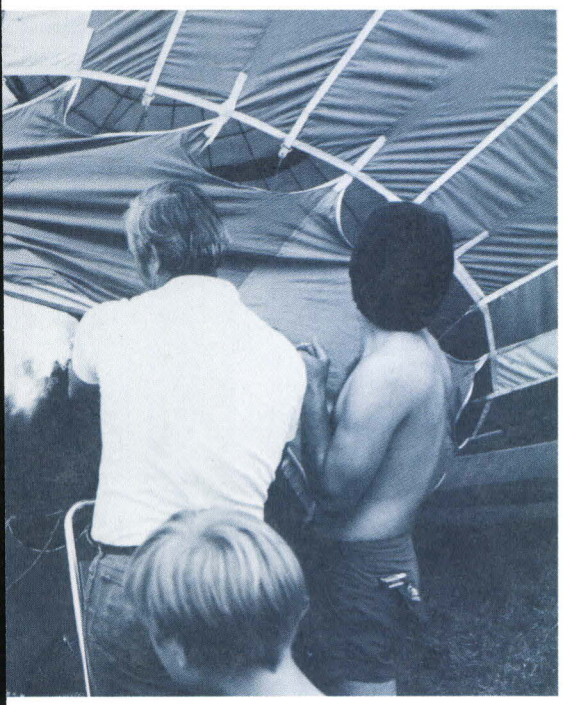
Camden Balloon Classic attracts thousands

About 10,000 people from several states converged on the Springdale Race Track May 15 for the second annual Palmetto Balloon Classic. Thirty four balloons, some from as far as Colorado, Kentucky and Texas, provided a colorful, exciting spectacle for the onlookers. Events included a hare and hound race early Saturday morning and then a mass ascension Saturday evening about 6:30 p.m. Plans are already underway for a third classic next year.

(AERONAUTICS COMMISSION PHOTOS)






N3118


Kentucky
Fried Chicken
Parker

Stevens Beechcraft, Inc. receives award

Stevens Beechcraft, Inc. has received a Recognition Award from Beech Aircraft Corporation for its 15 years of providing sales and service of Beechcraft products to the greater Greenville Spartanburg area.

Art Cross, Manager — Commercial Marketing, Great Lakes Region for Beech Aircraft Corporation presented the award to Mr. George A.G. Browder, Sr., President, Stevens Beechcraft.

Cross said the award was earned for Beechcraft representation, and participation in making the Tennessee, Kentucky and South Carolina area a better place to live. Cross cited Stevens complete General Aviation fixed base operation services to the market area as examples of the company's community involvement.

Stevens Beechcraft is located on the Greenville-Spartanburg Airport and also has facilities at Knoxville Downtown Island Airport, Nashville Metropolitan Airport and Bowman Field, Louisville, KY. They sell the full line of Beechcraft products and offer flight training from the private to airline transport license thru their Aero Club facilities at Greer, as well as charter service to all points of the country, aircraft rentals, hangar storage, aircraft service and fueling. ✈

Watch for ice in fuel injection systems

Pilots who make sustained flights at cold altitudes are urged by the AOPA Air Safety Foundation to take precautions against ice crystals forming in the fuel injection systems. The recommendations stem from a growing number of reports received by the Foundation of piston engine roughness or outright failures because of the ice crystals.

The Foundation's Executive Vice President, Archie Trammell, says the incidences are caused by ice crystal formation in super-cooled avgas during sustained flights in very low ambient temperature conditions. The ice crystals then block the screens in the injection system which causes fuel starvation resulting in rough running or engine stoppage.

Trammell believes the incidences have been increasing because of a particularly cold winter and the growing number of pilots flying at higher altitudes who have not been adequately cautioned about the potential or trained in methods for coping with it.

"It is most likely to occur in an aircraft that has been refueled in a warm, moist atmosphere, then flown in a temperature of -25° C or lower for an hour or more," Trammell reports. "The resolution of the problem is easy; simply add an approved anti-icing mixture to the fuel prior to sustained flight in extremely low temperatures," he added.

Most airframe and engine manufacturers approve isopropyl alcohol (MIL-F-5566) or ethylene glycol monomethyl ether (MIL-I-27686E) or the commercial product, Prist, which is widely used in turbine powered aircraft.

AOPA Air Safety Foundation personnel are urging pilots to check the servicing section of their pilot's handbook for proper refueling methods prior to flight in low ambient temperatures or to call ASF toll free at (800) 638-8088 for additional details.

The Foundation is also soliciting reports from pilots who have experienced engine roughness or failures which may have been caused by ice crystals in the fuel. Data are being gathered on the engine type, fuel brand and source, point of flight origination, duration aloft and other circumstances that will help ASF researchers in establishing trends that should be communicated to other aircraft owners and pilots. ✈

Informal FAA Investigations: Primary enforcement tool

By Henry M. Burwell

The Federal Aviation Act of 1958 gives the Federal Aviation Administration (FAA) authority to regulate aviation safety. The Administrator's authority permits assessing civil penalties on license and certificate holders and on passengers for violations. The National Transportation Safety Board (NTSB) is a separate agency from the FAA created to investigate transportation accidents. The NTSB may review appeals of FAA decisions affecting the status of license or certificate holders. The informal investigation is the primary method by which the FAA enforces its regulations.

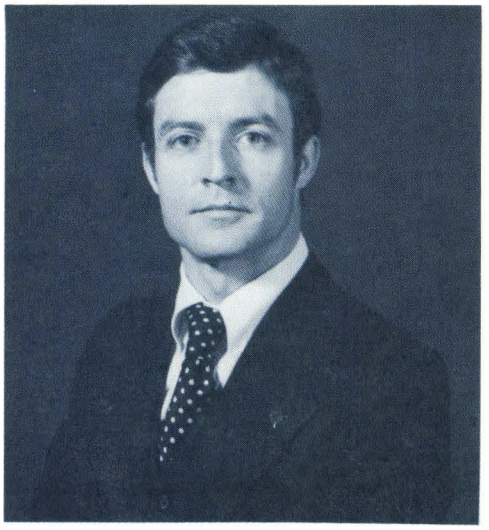
FAA monitoring activity is done through 6 regions supported by field offices. Since 1980, the FAA has made a strong effort to improve air safety for the public served by operators of aircraft of less than 60 passengers or 18000 lb capacity. Changes made include revision of Part 135 of the Federal Aviation Regulations (FARS) and consolidation of the inspection function over air carriers, air taxis and commuters into the Flight Standards District Office from the General Aviation District Office and Air Carrier District Office.

Inspectors from these offices investigate suspected infractions. When warranted a notice letter may be issued from a FAA Regional Counsel's office advising a person or company or both that analysis of factual data indicates a suspected violation of FARs. The recipient's response should be guided by the seriousness of the allegation, his compliance record, and the nature of any request for additional facts or discussion. If the notice is a proposal to impose a penalty a different response may be required. An informal conference is generally advisable.

FAA field officer personnel usually provide the regional office with an Enforcement Investigative Report (EIR-FAA Form 2150-5) which is the basis for the proposed violation. Normally an EIR may be obtained through FAA Regional Counsel. If an Air Traffic Control tower is involved a reproduction of voice exchanges may be available for a limited period after the incident. The manner in which the suspect seeks such material and conducts himself in an informal conferece may well influence the decision whether to process the case administratively or to seek legal enforcement for the violation.

When legal enforcement results, civil penalties of up to $1000 per violation may be assessed for less serious incidents. Deficient qualifications, repeated offenses and danger to public safety are some reasons for suspension or revocation of a license or certificate.

The degree of air safety aviators and the public enjoy depends primarily on individual performance and secondarily on FAA enforcement activity. Meeting the professional standards set by the regulators is only the beginning required to guarantee public safety. Sustaining that performance will accomplish the task. ✈



HENRY M. BURWELL

Henry M. Burwell is a practicing attorney in Greenville, specializing in aviation, antitrust and international trade law.

He holds a law degree from the University of North Carolina Law School and a masters degree in business administration, also from UNC.

From 1978 to early 1982, he was general counsel of Pinehurst Airlines, Greenville, S.C.

U.S., Canadian Armies interested in device

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Both the U.S. Army and the Canadian military are seriously interested in the device. The Army is currently writing a requirements document to secure funding for a number of the glasses. Canada is expected to buy 100 of the goggles over the next year or two.

Also, the FAA has tested the glasses and found that they qualify as a view limiting device and do not restrict the vision of the safety pilot.

The first units will be ready in the next few weeks and Witt says they are already sold to individuals.

Benson says the goal of the company is to produce 5,000 to 6,000 a year and he conservatively estimates the market for glasses at about 21,000 over the next four years. At $2,200 to $2,400 each, that's a $50 million market.

Witt is already doing reseach on the generation II IMCS, an auto programmed model that will interface with aircraft radar altimeters. And he is involved in research for the Army into ways to protect pilots from invisible lasers they are expected to encounter on battlefields in the near future. ✈

Breakfast Club

The S.C. Breakfast Club will meet at the following airports for breakfast beginning at 10 a.m.

June 13	Sumter
June 20	Clemson — special meeting (All day program for father's day)
June 27	House Movers field (south of Batesburg on sectional chart).
July 4	Camden — special meeting celebrating independence day

SOUTH CAROLINA
AERONAUTICS COMMISSION
P.O. Drawer 1987
Columbia, South Carolina 29202

Actor Tony Randall and his wife greet members of the South Carolina Arts Commission after deplaning from "Palmetto One" a Beechcraft King Air operated by the South Carolina Aeronautics Commission.

Randall flew in from New York City to meet with local cultural groups and to speak to the S.C. General Assembly.

(AERONAUTICS COMMISSION PHOTO)

Dumb things done by pilots who know better

John Allison of Charleston says he keeps a list of "dumb" things he sees around places he flys.

"The most pathetic part of the list is that the majority of these things are done by pilots who should know better." he says.

Here's the list:

No pre-flight inspection of airplane; takeoffs opposite traffic: takeoffs not using all available runway; gear retraction early with runway available.

All sorts of non-standard traffic pattern entries: from straight ins and no patterns to the right hand patterns being flown where left hand patterns rules are observed. Also, descending to pattern altitude on downwind leg, no radio calls, wrong altitudes in the pattern. Approaches and landings: landing opposite traffic, landing on first five feet of runway, landing with gear up, landing on closed runways, landing on displaced theshold, landing short of runway and landing short due to running out of gas and landing with engine feathered and taxiing in with all engines running normally.

No flight planning is indicated when radio calls are heard requesting orientation, what airport if that I'm ready to land on, and what frequency is the tower on, ect.

Sad but true. Maybe these observations from John will remind us to tighten up our own procedures. ✈